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Kidding percentage and twinning ability in Mehsana goat at an organized farm

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ABSTRACT

Study was conducted to investigate kidding percentage and twinning ability in Mehsana goat maintained under semi intensive management system at organized farm. For the study data related to reproduction a trait of 335 Mehsana does were statistically analyzed. Kidding percentage and twinning ability was found to be 86.61 and 18.22 percent, respectively.

Key words: Kidding percentage, twinning ability, Mehsana Goat, semi intensive

Goat farming is being the source of income for small, marginal farmers and landless labourers. Mehsana goat is native breed of northern region (Mehsana, Patan, Banaskantha and Gandhinagar districts) of Gujarat state. Mehsana goat is mainly, reared for dual (milk and chevon) purpose. Gujarat state has about 6.11 lakhs of Mehsana goats and these breed wise population figure indicate an importance of goat farming in Gujarat (Anonymous, 2017). The overall competence of goat farming is mainly on the basis of body weight traits, production performance and reproduction performance and these traits are also important for genetic improvement (Patel and Pandey, 2013). Periodical evaluation of reproduction traits will help in understanding the trend and identification of environmental factors affecting the traits. Moreover both kidding percentage and twinning ability are most important parameters to identify reproduction performance. The present investigation was carried out to study of reproduction traits of Mehsana goat.

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MATERIALS AND METHODS

The data were collected over a period of seven years (2011 to 2017) from Mehsana goat. Data were investigated for kidding percentage and twinning ability. The kidding percentage was calculated as number of kids born per doe mated. The twinning ability was determined as number of twin kidding over number of total kidding. Statistical analyses were done by using appropriate statistical tool.

RESULTS AND DISCUSSION

Table 1 shows details of kidding percentage from year 2011 to 2017 in Mehsana goat.

The overall kidding percentage and twinning ability were 86.61 % and 18.22 %, respectively in Mehsana does. It was observed that the kidding percentage found to be higher during year 2014, 2015, and 2016 however, it was remained lowest during the year 2013. Kidding percentage is vital parameter which reflects the reproductive efficiency and having low heritability (0 to 0.15). However management plays a major role in increasing reproductive efficiency. The kidding percentage during 2014, 2015, and 2016 might be due to some management and climatic factors. The higher kidding percentage

expressed during the year 2014 and subsequently in the year 2015 indicated that the Mehsana goat have potential to show better reproductive efficiency which could be optimized by providing excellent managerial practices. Kidding percentage in present study was comparatively higher than reported by Deokar *et al*. (2006) in Osmanabadi goat in which they reported that kidding percentage ranged between 80 to 90%. However, Joshi *et al*. (2005) reported 60 to 70 percent kidding in Marwari goat in farmers' flock of arid region of Rajasthan. The higher rate of kidding percentage of Mehsana goat in present finding as compared to the earlier findings might be attributed to fact that flock is developed at the farm level as result of selective breeding over 30 years.

The overall twinning percentage (Table-2) in Mehsana goat was found to be 18.22. The year wise twinning percent ranged from 1.89 to 42.86. The vide variations in twinning percentage might be due to seasonal effect, good nutrition and breeding under excellent semi-intensive management. The present finding of is in agreement with Kuralkar *et al*. (2000) and Sahare *et al*. (2009) in Osmanabadi goat in vidarbha region of Maharastra.

The twinning ability in present finding was comparatively lower than; Deokar *et al*. (2006) in Osmanabadi goat; Joshi *et al*. (2005) in Marwari goat and Neeru and Mishra (2004) in Sirohi and Marwari goat. Whereas, Gaikwad (1999) reported low percentage of twinning *i.e.* 5.27 percent in Osmanabadi goat. The year wise twinning percentage indicated that the variation might be due to non-genetic factors (feeding, housing management and favorable climatic conditions). Variation may also occur if it is utilized for breed conservation and genetic improvement.

CONCLUSION

Mehsana goat exhibited excellent reproduction performance. Overall kidding percentage and twinning percentage for the period were 86.61 and 18.22, respectively. Further improvement in reproduction traits can be brought about by genetic improvement through selection, breeding and also by excellent managerial activities.

REFERENCES

Anonymous, 2017. Innovative Project for "Genetic improvement of Sheep and Goat" (Gisg) Under National Livestock Mission, Government of India (GoI).

Deokar, D.K., Lawar, V.S. and Ulmelker, B.R. 2006. Morphological characteristics of Osmanabadi goats. *The Indian Journal Small Ruminants*, **12** (1):13-15.

Gaikwad, U.V. 1999. Studies on twinning ability in goats. M.V.Sc. Thesis submitted to Dr.Panjabrao Deshmukh Krushi Vidhyapeeth Akola.

Joshi, A., Verma, P.K., Satish Kumar, Maurya, V.P., Gulyani, R. and Mittal, I.P. 2005.Survey on reproductive status and management of Marwari goats in farmer flock of arid region of Rajasthan. *Indian Journal of Animal production Management*, **21** (1-4): 113-115.

Kuralkar, S.V., Ali, S.Z. and Takarkhede, R.C. 2000. Kidding and growth pattern of kids under organized farm condition. *Indian Journal of Small Ruminants*, **8** (2): 149-152.

Neeru, K.P. and Mishra, R.P. 2004. Factor affecting gestation length of Sirohi and Marwari goats. *Indian Journal of Small Ruminants* **10** (1):90-92.

Patel, A.C. and Pandey, D.P. 2013. Growth, Production and Reproduction performance of Mehsana goat. *Livestock Science* 4: 17-21.

Sahare, M.G., Sawaimul, A.D., Ali, S.Z. and Kolte, B.R. 2009. Kidding Percentage and Twinning Ability in Osmanabadi goat in Vidarbha Climatic Condition. *Veterinary World*, **2** (2): 60-61.

Table 1 Kidding Percentage in Mehsana goat

Year	Number of female mated	Number of kids born	Kidding %
2011	113	96	84.96
2012	62	54	87.10
2013	51	42	82.35
2014	42	39	92.86
2015	33	30	90.91
2016	60	54	90.00
2017	72	60	83.33
Total	433	375	86.61

Table 2 Twinning Percentage in Mehsana goat

Year	Single	Twins	Total	Twinning %
2011	70	13	83	15.66
2012	52	1	53	1.89
2013	38	2	40	5.00
2014	27	6	33	18.18
2015	22	4	26	15.38
2016	30	12	42	28.57
2017	24	18	42	42.86
Total	263	56	319	18.22